ORIC:

It is recommended not to entirely base decisions not requiring further station groundwater investigations entirely on these boring data. Any additional station soil - waste contamination or contamination sources investigations should be directed toward other previously unknown impoundments found by the Department and evaluation of present product and waste handling at each station.

Regional Central Chron 89/0-16-21





WESTON WAY WEST CHESTER, PA 19380 PHONE: 215-692-3030 TELEX: 83-5348

23 September

Mr. James P. Snyder, Acting Director Bureau of Waste Management Pennsylvania Department of Environmental Resource P.O. Box 2063 Fulton Building Eighth Floor 3rd and Locust Streets Harrisburg, PA 17120

Letter No. PA-101

RE: Texas Eastern Transmission Corporation and Texas Eastern Gas Pipeline Company; Consent Order and Agreement; April 1, 1987; Groundwater Monitoring at the Rockwood Site

Dear Mr. Snyder:

As discussed in the attached June 23, 1987 letter, Phase I groundwater monitoring activities at Texas Eastern's Rockwood Station Site were indefinitely delayed with the concurrence of the Department of Environmental Resources ("Department"). This delay was due to a possible coal mine void encountered at a depth of 25 feet while drilling MW-03 on May 21, 1987. Subsequent investigations revealed that a soft clay unit may have been encountered rather than a coal mine void.

In order to further investigate the Rockwood Site, Texas Eastern proposes to drill an exploratory auger boring to a depth of at least 25 feet at the MW-03 location. Continuous split-spoon samples will be taken in this boring to determine the nature of the strata.

If a coal mine void is encountered, the boring will be grouted and abandoned and the rig will leave the site. Discussions would then be held with the Department to define whether further site activities are warranted taking into account the presence of the coal mine. If a coal mine is not encountered, a Phase I ground-water monitoring well installation program will be initiated as follows:

- 1. A minimum of three groundwater monitoring wells will be installed.
- The well locations will be chosen in the field by representatives of Texas Eastern and the Department.

WESTEN

Mr. James P. Snyder, Acting Director Bureau of Waste Management

23 September 1987 Page 2

- 3. One groundwater monitoring well may be constructed from the exploratory boring described above. The exploratory boring will be advanced to refusal (competent bedrock). If groundwater is encountered, a screened groundwater monitoring well will be installed. If groundwater is not encountered in the exploratory boring, it will be grouted and abandoned. An air rotary drilling rig would then be used to install groundwater monitoring wells at the agreed upon locations.
- 4. A decision will be made by Texas Eastern the Department as to whether a fourth monitoring well will be installed. This decision will be based on static water level and/or groundwater quality. In the event the Department and Texas Eastern agree that a fourth groundwater monitoring well is not necessary, that agreement will be confirmed in writing as an amendment to Paragraph 4(a) of the Consent Order.

Note that these wells will be installed and sampled according to the standard procedures outlined in Phase II Work Plans previously submitted to the Department for other sites.

If you or your staff have any questions concerning this proposal, please call Otherwise, we expect to be initiating drilling activities at the Rockwood site the week of 28 September 1987.

Very truly yours,

ROY F. WESTON. INC.

BSC/dpq

cc: Robert Orwan, PADER

Mr. Donald A. Lazarchik, Director Bureau of Waste Management Pennsylvania Dept. of Environmental Resources Fulton Building, 3rd Floor P.O. Box 2063 3rd and Locust Streets Harrisburg, PA 17120

Letter No. PA-12 W.O.#2708-01-10

RE: Consent Order and Agreement (Consent Order) between the Commonwealth of Pennsylvania, Department of Environmental Resources (Department) and Texas Eastern Transmission Corporation and its division, Texas Eastern Gas Pipeline Company (Texas Eastern), dated April 1, 1987; Additional Drilling and Sampling Considerations

Dear Mr. Lazarchik,

The purpose of this letter is to discuss three issues associated with scheduling difficulties and unanticipated site conditions encountered during the groundwater monitoring well drilling and sampling activities being performed by Texas Eastern pursuant to Paragraphs 4, 5, and 6 of the subject Consent Order. The three issues discussed below have been raised to Department personnel and oral agreements concerning the issues have been reached. The issues are 1) temporarily postponing rock coring procedures at Chambersburg (Station 23), Grantville (Station GRA), Entriken (Station ENT), and Shermansdale (Station SHE), 2) indefinitely postponing drilling at Rockwood (Station 22), and 3) small sample volume from well points at Perulack (Station PER) Pit No. 2.

1) Rock Coring Procedures

In order to complete monitoring wells in a timely fashion at Chambersburg, Grantville, Entriken, and Shermansdale, WESTON has proposed and the Department has agreed to a change in rock coring procedures for those sites. Instead of coring at a down-gradient monitoring well location as described in Paragraph 5 of the Consent Order, WESTON proposed and the Department agreed that some groundwater monitoring wells be installed without coring;

Mr. Donald A. Lazarchik, Director Bureau of Waste Management

23 June 1987 Page 2

and that coring be completed at a later date as a separate field operation, immediately adjacent to a down-gradient monitoring well location. This procedure will allow one drilling contractor with the most suitable equipment to accomplish the corings and still allow all pertinent schedules in the Consent Order to be met.

This procedure was described by of WESTON to J. E. Godfrey of the Department in a telephone conversation on 20 May 1987. Mr. Godfrey agreed to this procedure.

2) Indefinite Drilling Delay at Rockwood

WESTON and Department personnel have also agreed that groundwater monitoring well drilling at Rockwood be indefinitely postponed until such time that WESTON determines that a coal mine void does not underlie the only feasible location for down-gradient monitoring wells at Rockwood. Drilling into such a coal mine void would present a safety hazard.

While drilling Monitoring Well MW-03 at Rockwood on 21 May 1987 the following events occurred:

- 1. At a depth of 25 feet, the drill bit suddenly dropped.
- The return flow of air and cuttings stopped.
- 3. The ground shook significantly.

The driller and on-site geologist concluded that a mine void had been penetrated. At the time, shaking of the ground was thought to be a subsurface cave-in of an abandoned coal mine void or perhaps a methane explosion. For safety reasons, a decision was made to cease drilling operations and the rig was moved to another site.

On the same day, advised J. E. Godfrey of these facts and observations. Mr. Godfrey concurred in WESTON's decision to cease drilling operations at the site.

1000

Mr. Donald A. Lazarchik, Director Bureau of Waste Management

Other information also indicated both that continued drilling could pose a safety hazard and that there was no alternative down-gradient water bearing stratum that could be sampled:

- MW-03 was the first monitoring well drilled at Rockwood.
- 2. There are no alternative drilling locations available (the pit is located near the down slope edge of the Texas Eastern property).
- 3. To a depth of 26 feet, geologic materials encountered consisted only of weathered rock (shale, and a thin coal bed). No competent rock was encountered.
- No groundwater was encountered.
- 5. One of Texas Eastern's pipelines is located approximately 75 feet from the MW-03 location such that a collapsed mine void could cause a rupture in the pipeline and release of natural gas.

On 29 May 1987 met at the Rockwood site with J. E. Godfrey and Eric Manges from the Department to survey the site and discuss the situation. It was agreed that no drilling would be performed, and that a decision whether any future drilling would be required would be made only after all other sampling activities at the site are completed and results are received and reviewed.

During the week of 1 June 1987 WESTON contacted drillers who are from western Pennsylvania and are familiar with geologic conditions in that part of the Commonwealth. WESTON described to them the Rockwood situation. As a result of these discussions, an alternative possible explanation for the events at Rockwood emerged: A very soft layer of material may have been encountered at a depth of 25 feet possibly allowing the bit to drop. After

the bit dropped, this soft material may have collapsed around the drill stem above the bit. This would seal the annulus, stopping the return of air and cuttings to the surface. Air would continue to be forced into the subsurface, causing a highly pressurized air pocket to form. The expansion and subsequent release of this air pocket may have caused the ground to shake.

presented this alternative explanation to J. E. Godfrey on 5 June 1987. Mr. Godfrey agreed that this alternative explanation was plausible. Mr. Hill and Mr. Godfrey further agreed that WESTON would investigate any historical coal mining activities in the vicinity of the site. If, based on this investigation, WESTON determined that the existence of a shallow coal mine at the site was unlikely, then a drill rig would be moved to Rockwood, and drilling of the four (4) groundwater monitoring wells would proceed.

On 8 June 1987, WESTON met with Jim Shaulis of the Pennsylvania Geological survey, who has past experience with the geology and the location of coal mining operations in Somerset County. He supplied the following information:

- A coal seam is present under the site, at approximately the same elevation where the drill bit dropped. The seam present is the Upper Kittanning Coal.
- o Approximately 1000 feet southeast of the site, a coal mine entrance was present where historic mining operations in the Upper Kittanning Coal once occurred.
- o The coal mine entrance was at elevation 2156 feet above sea level. The elevation where the bit dropped was approximately at 2155 feet above sea level.
- o To his knowledge, no information is available concerning the areal extent of mining associated with this coal mine entrance.

(Red)

Mr. Donald A. Lazarchik, Director Bureau of Waste Management

Based on this information, WESTON concluded that it was possible that a mine void was encountered while drilling at Rockwood. On 9 June 1987, discussed these findings with J. E. Godfrey and informed him that WESTON does not intend to drill air rotary wells at the site at this time because of safety considerations, especially given the proximity of the pipeline to the drilling locations.

As a result of their June 9, 1987, discussion and Mr. Godfrey now agree that:

- o It is appropriate to postpone monitoring well drilling operations at Rockwood indefinitely.
- o A decision concerning any future drilling operations will be made after all other sampling activities at the site are completed and analytical results are received and reviewed.
- o WESTON will continue to investigate coal mining activities in the vicinity of the site.
- o WESTON will determine if any appropriate exploratory drilling procedures exist to safely determine whether or not a coal mine void is present under the site.

3) Sample Volumes, Perulack Pit No. 2

Three two-inch diameter stainless steel well points were installed in soil downgradient from Pit No.2 at Perulack, as discussed at our 13 May 1987 meeting with Department representatives, and documented in our letter to you dated 12 June 1987. Two of the well points are three and one half feet deep, and one is four and one half feet deep. These well points could be installed no deeper, because each well point encountered bedrock, and the agreed-upon well point installation procedures are appropriate for unconsolidated materials only. The WESTON personnel who installed the well points reported that water from the unconsolidated materials

flowed into the well points very slowly. In one of the well points, it took approximately two hours for about 1.3 liters to collect in the well point; and in the other two, the rate of water flow was much slower.

discussed this situation with J. E. Godfrey and Robert Orwan from the Department during a telephone conversation on 18 June 1987. Mr. Godfrey and Mr. Orwan agreed that sample volumes obtainable from these well points may not be sufficient for all of the laboratory analyses called for in the Consent Order (Paragraph 11). They agreed that WESTON sampling personnel would collect as much sample volume as possible over a two-day period, and that sample bottles (where each bottle is appropriate for a particular analysis) would be collected in the following order from each well point:

- 1) Volatile organics
- 2) Pesticides/PCB's
- 3) Base Neutral/Acid Extractables
- 4) Metals
- 5) Cyanide
- 6) Nitrite/nitrate
- 7) TOC
- 8) Turbidity, pH, specific conductivity, fluoride, sulfate, and nitrate

In order to document and confirm the understandings with respect to the items discussed above, we would ask your return of one Mr. Donald A. Lazarchik, Director Bureau of Waste Management

23 June 1987 Page 7

Time (1)

signed copy of this letter. Note that the issues involving the Rockwood and Perulack Stations will also be confirmed by counsel.

Very truly yours,

ROY F. WESTON, INC.

Capy-Godfrey 8910.16-21

- Reg I RECEIVED

- Rockwood file RECEIVED



WEST CHESTER, PA 19380 PHONE: 215-692-3030 TELEX: 83-5348

NOV 1 2 1987

Assistant Director's Office BUREAU OF WASTE MGT.

November 11, 1987

Mr. James P. Snyder, Acting Director Bureau of Waste Management Pennsylvania Department of Environmental Resources Fulton Building, Eighth Floor 3rd & Locust Streets P.O. Box 2063 Harrisburg, PA 17120

Letter No. PA-129

Texas Eastern Transmission Corporation and Texas Eastern Gas Pipeline Company; Consent Order and Agreement dated April 1, 1987; Certifications and Well Logs File No. PA-415190024

Dear Mr. Snyder:

Enclosed please find one copy of the certifications and well logs of Phase I groundwater monitoring wells at the Rockwood site. The certifications and well logs are submitted in partial satisfaction of Texas Eastern's obligations under Paragraphs 7(a) and 7(b) of the Consent Order dated April 1, 1987. Each well has been installed in accordance with the Rockwood Phase I Work Plan and discussions with the Department of Environmental Resources.

Very truly yours,

ROY F. WESTON, INC.

B. IIII

GROUNDWATER MONITORING WELL LOG

Rockwood Station - Well MW-01

Total Depth (Ft.)	Well Diameter (In.)	Drilling <u>Method</u>	Depth of Water Inflow (Ft. Below Ground Surface)
14	4	Hollow Stem Auger	13.5

GEOLOGIC DESCRIPTION

Depth Interval(Ft.)	
0 - 13.5	Silt, clayey, brown to gray brown with sandstone and coal fragments, grading to weathered sandstone, fine to medium grained, silty, clayey, brown to gray-brown; moist.
13.5 - 14	<pre>Sandstone, fine to medium grained, silty, red brown, friable; wet.</pre>

Well Completion Information (Double Cased Screened Well)

Project	TE
•	Rockwood
Well	MW-01
Screene	d Interval4'-14'
	asing Length (Ft) 9.2
Inner Ca	sing Length (Ft) 5.4
	ix Ratio,
Outer Ca	asing 4 lbs. Bentonite; 94 lbs. Cement; 8 gal. Water
Grout M	ix Ratio,
inner Ca	sing Same as Above

October 13, 1987 Installation Date Hollow Stem Auger Drilling Method _ McKay and Gould Drilling Company . Outer Casing Material Low Carbon Steel Stainless Steel Inner Casing Material Stainless Steel Screen Material . 0.01 Screen Slot Size _ Bentonite Seal Material _ 5-30 Grade Gravel Filter Pack Material . Comments Protective Casing Driven into Grout

Outer Casing 2.16 Stick Up (Ft) Inner Casing 1.35 Stick Up (Ft) Ground Surface Outer Casing 10 Inner Casing Borehole Diameter (In) Diameter (In) Outer Casing 8 Diameter (In) **Outer Casing** 7 Depth (Ft) Inner Casing 10 Borehole Diameter (In) Depth to 2 Top of Seal (Ft) Depth to 3 Bottom of Seal (Ft) Depth to Top of Screen (Ft) Filter Pack Interval Depth to Bottom of 14 Screen (Ft) Total Well 14 Depth (Ft)

GROUNDWATER MONITORING WELL LOG

Rockwood Station - Well MW-02

Total Depth (Ft.)	Well Diameter <u>(In.)</u>	Drilling Method	Depth of Water Inflow (Ft. Below Ground Surface)
17.5	4 Holl	ow Stem Auger	6-10, 17-19

GEOLOGIC DESCRIPTION

Depth Interval(Ft.)	
0 - 13	<u>Silt</u> , clayey, gray brown to dark gray, grading to <u>sandstone</u> , weathered, fine to medium grained, clayey, silty, brown to dark gray-brown; moist.
13 - 17	<pre>Clay, silty, carbonaceous, soft, medium to light brown-gray; moist.</pre>
17 - 19	Coal, black, friable, crumbly; wet.

Well Completion Information (Double Cased Screened Well)

Project	TE	
Facility		
Well		
Screened Interva	al <u>7.5' - 17.5' BGS</u>	·
Outer Casing Le	ngth (Ft)	
Inner Casing Lei	ngth (Ft)8.64	
Grout Mix Ratio,	4 lbs. Bentonite; 94	lbs.
Outer Casing	4 lbs. Bentonite; 94 Cement; 8 gal. Water	·
Grout Mix Ratio.	Same as Above	
Inner Casing		

Installation Date October 12, 1987

Drilling Method Hollow Stem Auger

Drilling Company McKay and Gould

Outer Casing Material Low Carbon Steel

Inner Casing Material Stainless Steel

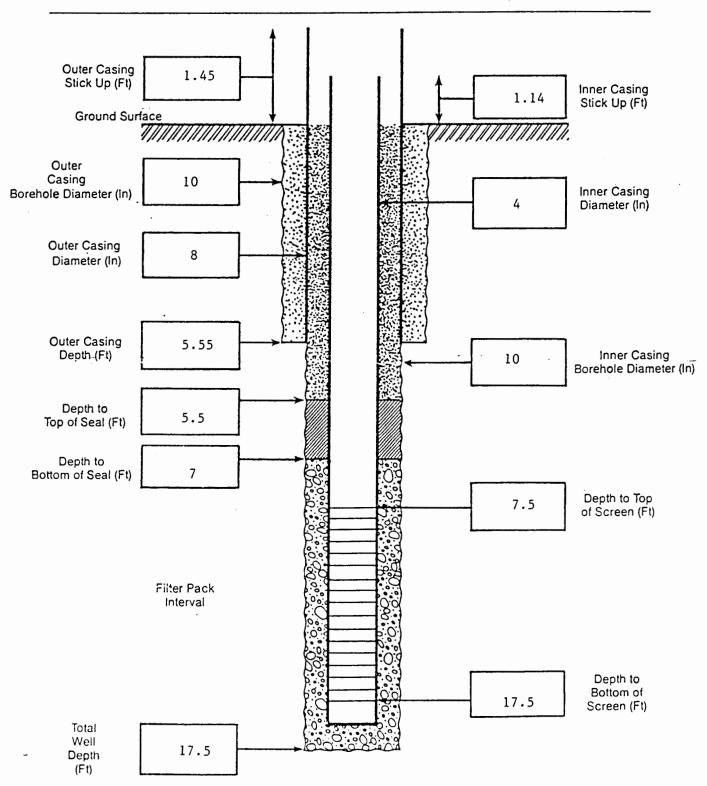
Screen Material Stainless Steel

Screen Slot Size 0.01

Seal Material Bentonite Pellets

Filter Pack Material 5-30 Grade Gravel

Comments Protective Casing Driven into Grout



GROUNDWATER MONITORING WELL LOG

Rockwood Station - Well MW-03

Total Depth (Ft.)	Well Diameter <u>(In.)</u>	Drilling Method	Depth of Water Inflow (Ft. Below Ground Surface)				
44 (Grouted	4 A back	Hollow Stem,	6-10, 16-20, 36, 44				
•		Split Spoon,					
to 22'))	and Rock Core					

GEOLOGIC DESCRIPTION

(Ft.)	
0 - 4	<pre>Clay, silty, soft, plastic, light yellow-brown to gray-brown; moist.</pre>
4 - 8	Silt, clayey, medium brown-gray to light yellow-brown with sandstone fragments.
8 - 10	<pre>Sand, fine to medium grained, yellow-brown; moist to wet.</pre>
10 - 16	<pre>Clay, silty, soft, plastic, medium to light gray-brown; dry.</pre>
16 - 20	Coal, black, dull, friable, crumbly.
20 - 32	Clay, silty, soft, plastic, medium to light gray, moist, grading to shale, silty, weathered, medium to light gray, fissile.
32 - 44	Shale, silty, medium to light gray, fissile, open fractures with calcite; breccia zone at 43.7'.

Well Completion Information (Double Cased Screened Well)

Project	TE		Installation Da	ate October	8, 1987	
Facility			Drilling Metho	170 1 10 1	lit Spoon, Core	
Well				oany <u>McKay</u> a		•
Screened Int		20.2' BGS	Outer Casing		Carbon Steel	•
		. 42			inless Steel	-
Inner Casing	,	2.2	Screen Mater		inless Steel	•
Grout Mix Pr	atio 4 lbs. Ber	tonite: 94 lbs				•
Outer Casine	Cement; 8	gal. Water.	Seal Material		onite Pellets	•
Crowt Mix Da	atio, Same as Ab	ove	Filter Pack M		Grade Gravel	•
			Comments		from 29-44'/Gro	outed
inner Casing			Comments _	back to 22'		
4.						•
		† 1	l			
		1	1			
Outer Casin Stick Up (Ft		 1	1 1 4			
Cuck of (i	′ <u>L</u>]	111	2.0	Inner Casing	
Ground S	urface	1 1	↓		Stick Up (Ft)	
			W. VA			
			题题(
Outer		1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	经经验	,		
Casing Borehole Diameter (In	10				Inner Casing	
Boronore Bramere: fin	′ -L		3	4	Diameter (In)	
Outer Casing			(()			
Diameter (In)	8	1				
Outer Casing	3.0					
Depth (Ft)	3.0				Inner Cas	sing
	L	· 🦓	EZI	10	Borehole Diar	neter (In)
		1 、		<u> </u>		
Depth to	3					
Top of Seal (Ft)	3					
		1				
Depth to	6	200	P			
Bottom of Seal (Ft)	DO:	09			
		8 3	:0:4	10.2	O Depth to Top	
					of Screen (F	()
		p.e		<u> </u>		
		(0:0)	big			
		89				
	Filter Pack	(%)				
	Interval		180			
		1000	<u></u>			
		200				
		<u> </u>	[:0:3			
)			Depth to Bottom of	
			100	20.2	Screen (Ft)	
Total		100	501	L		
Well	22	0.00	000°3			
Depth	44		- Company			

Depth (Ft)

8910.16-21

RECEIVED



WESTON WAY WEST CHESTER, PA 19380 PHONE: 215-692-3030 TELEX: 83-5348

DEC 1 4 1987

Rag I

Assistant Director's Office
BUALAU OF WASTE MGT.

December 11, 1987

Mr. James P. Snyder, Acting Director Bureau of Waste Management Pennsylvania Dept. of Environmental Resources Fulton Building, Eighth Floor 3rd & Locust Streets P.O. Box 2063 Harrisburg, PA 17120

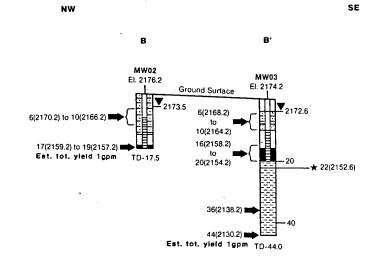
RE: Texas Eastern Transmission Corporation and Texas Eastern Gas Pipeline Company; Consent Order and Agreement Dated April 1, 1987; Monitoring Well Cross Sections File No. PA-415120021

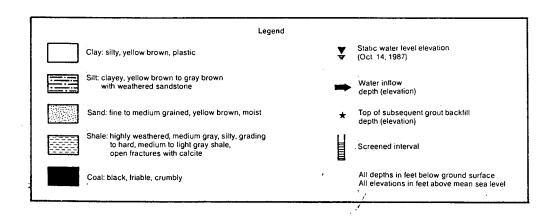
Dear Mr. Snyder:

Enclosed please find one copy of the transverse and longitudinal cross sections developed from the well logs of the Phase I groundwater monitoring wells at the Rockwood Site. These cross sections are submitted in partial satisfaction of Texas Eastern's obligations under Paragraph 7(c) of the Consent Order dated April 1, 1987.

Very truly yours,

ROY F. WESTON, INC.

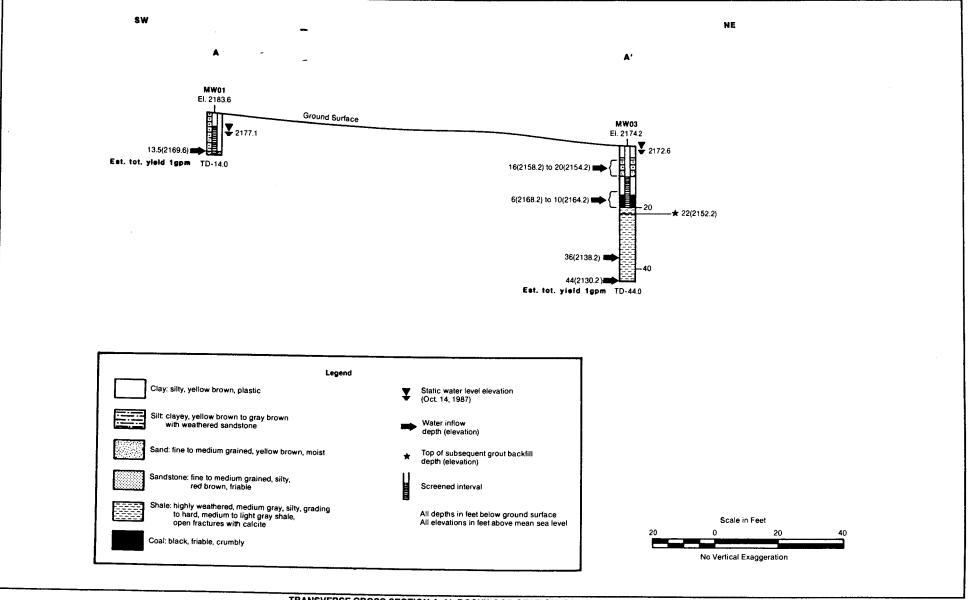




Scale in Feet
20 0 20 40

No Vertical Exaggeration

LONGITUDINAL CROSS SECTION B-B', ROCKWOOD STATION, PA. (REV. DEC. 14, 1987)



TRANSVERSE CROSS SECTION A-A', ROCKWOOD STATION, PA. (REV. DEC. 14, 1987)

ROCKWOUD STATION 22

SAMPLES & RESULTS(PPM)

SB-01-01	(N.D.)	SW-01	(N.D. PPB)
SB-01-01-D	(N.D.)	SW-01-D	(N.,D. PPB)
SB-02-01	(N.D.)	SW-02	(N.D. PPb)
SB-02-02	(N.D.)		
SB-03-01	(N.D.)	SS-01	(3.6)
SD/DD-01	(0.97)	SS-02	(N.D.)
SD/DD-02	(0.023 J)	SS-03	(N.D.)
SD/DD-03 .	(N.D.)	SS-03-D	(N.D.)
SD/DD-04	(N.D.)	SS-04	(N.D.)
SD/DD-05	(0.042 J)	SS-05	(N.D.)
SD/DD-06	(8.0)	SS-06	(N.D.)
SD/DD-06D	(0.43)	SS-07	(N.D.)
SD/DD-07	(N.D.)	SS-08	(N.D.)
SD/DD-11	(0.067J)	SS-09	(0.14 J)
SD/S-08	(N.D.)	SS-10	(N.D.)
SD/S-09	(N.D.)	SS-11	(N.D.)
SD/S-10	(0.26)	SS-13	(0.31 J)

NOTE: J - ESTIMATED VALUE
N.D. - NOT DETECTED

ALL RESULTS IN PPM UNLESS OTHERWISE INDICATED.

NOT ON MAP

- SD/S-08 SW-01 TRIBUTARY TO WILSON CREEK, SOUTH OF SITE
 - SD/S-09 TRIBUTARY TO WILSON CREEK, SOUTH OF SITE
 - SD/S-10 TRIBUTARY TO WILSON CREEK, SOUTH OF SITE

BARBED WIRE FENCE

1 capy

5 10 10

Rockwood, PA (22)

Location:

Approximately 1.5 miles south of the town of Murdock, in Somerset County, Pennsylvania.

Number of Pits: 1

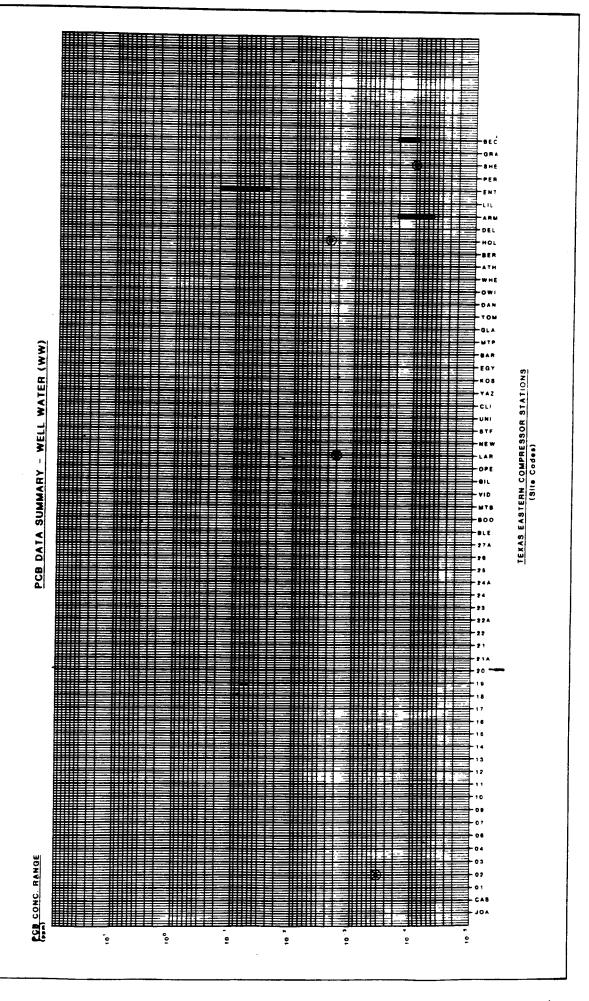
Sample Summary

	<u>ss</u>	<u>SB</u>	SD/S	SD/DD	<u>st</u>	<u>ww</u>	<u>sw</u>	Totals
Samples Duplicates Blanks	13 1 1	4 1 0	3 0 0	7 1 0	0 0 0	1 0 0	2 1 1	30 4 2 36

PCB Data Summary

	ss	SB	SD/S	SD/DD	ST	<u>ww</u>	<u>sw</u>
Maximum Detected Conc. (ppm)	3.6	ND	0.260	0.970	-	ND	ND
Minimum Detected Conc. (ppm)	0.063	ИD	0.260	0.023	-	ИD	ND

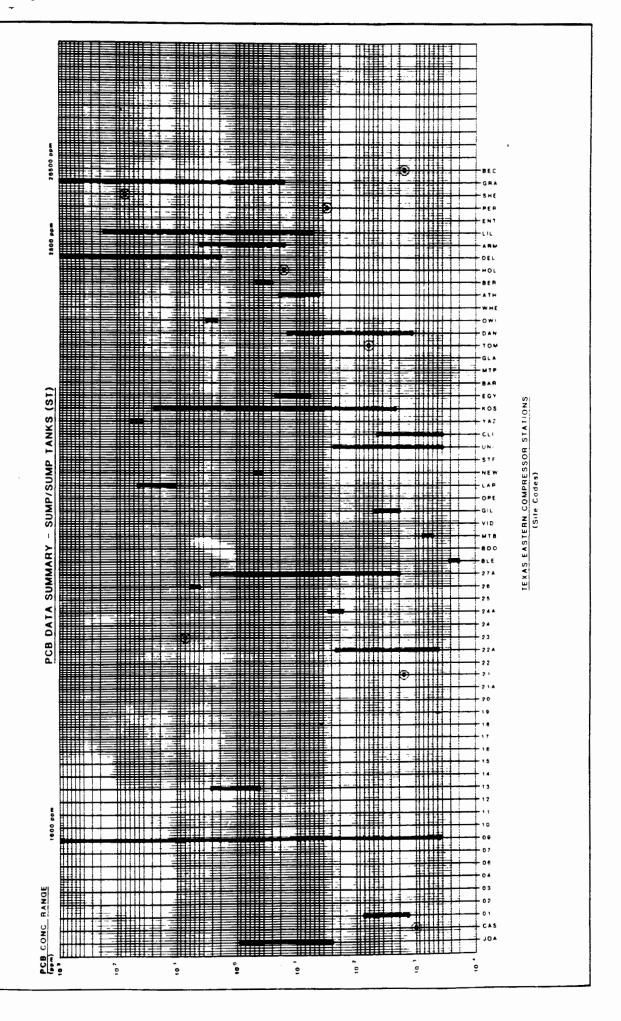
ND = None Detected

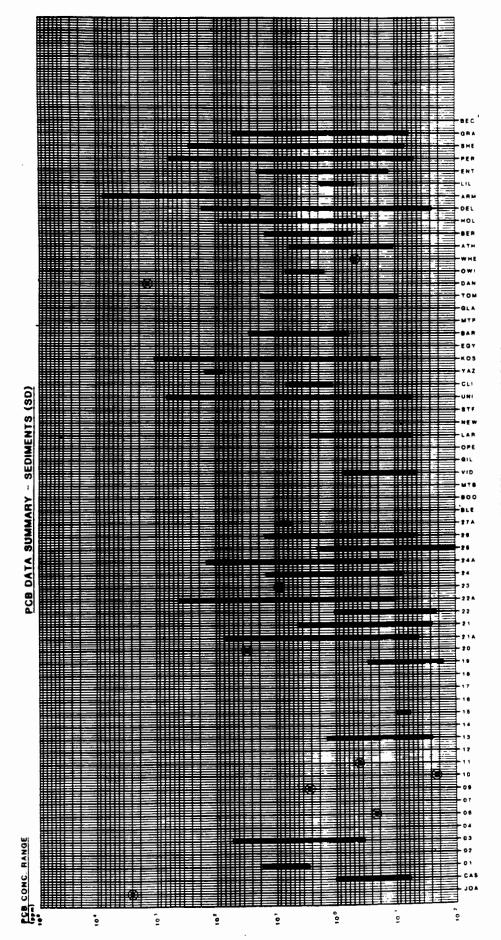


MADICAN.

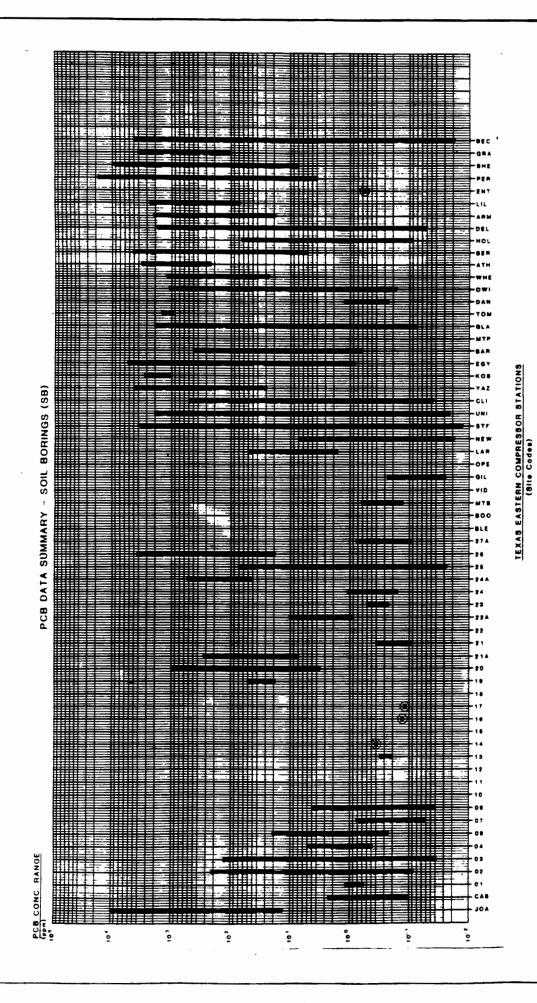
別で

. . .





TEXAS EASTERN COMPRESSOR STATIONS
(Site Codes)



8910.16-21

RECEIVED



WESTON WAY WEST CHESTER, PA 19380 PHONE: 215-692-3030 TELEX: 83-5348

JAN 1 4 1029

Assistant Director's e e BUREAU OF Waste MGT.

January 12, 1988

G.W. STATIC H₂O L.BUGI

Mr. James P. Snyder, Acting Director Bureau of Waste Management Pennsylvania Department of Environmental Resources 3rd & Locust Streets P.O. Box 2063 Harrisburg, PA 17120

RE: Texas Eastern Transmission Corporation and Texas Eastern Gas Pipeline Company; Consent Order and Agreement dated April 1, 1987; Hydrogeology Maps File No. PA-415040012

Dear Mr. Snyder:

Static water level data are submitted in partial satisfaction of Texas Eastern's obligations under Paragraph 6(d) of the Consent Order dated April 1, 1987.

On November 19, 1987 Roy F. Weston, Inc., measured static water levels in the first phase monitoring wells at the Rockwood site as shown on the attached map dated January 13, 1988.

As you can see on the enclosed map, these data tend to confirm that one well has been placed upgradient and two wells have been placed downgradient of the pit at this site.

Enclosure

cc: James P. Hart, Jr., Texas Eastern (w/encl.)
 Marc E. Gold, Esq., Wolf, Block, Schorr & Solis-Cohen
 (w/encl.)
 Donald A. Brown, Esq., PADER

8910-16-18

File: PCB1

Rockwood

Rockwood

Black Twp: Co, Printed on 8/06/87

Selection Criteria: ALL

Somerset

Fage: 21

SITE CODE	OFF SITE	SAMPLE TYPE	SAMPLE DESCRIPTION	LOCATION	COLLECTOR	DATE	SAMPLE NUMBER	
ROC	on		Station Well Stream on property Sediment on site	tap outside bldg Southeast Southeast	B. Shawley, BWM B. Shawley, BWM B. Shawley, BWM	3/02/87 3/02/87 3/02/87	2518312 2518313 2518317	
	off	i 2 3	Residential well 01 Residential well 02 Residential well 03 Residential well 04 Spring of property Drainage off Site Stream off property Sediment off site	Lawrence Burkett Ralph Miller Clyde Clay Leroy Roberts Paul Boden property Road 50'above spring Bown stream, X-road stream below site	B. Shawley, BWM	2/28/87 2/28/87 2/28/87 3/02/87 3/02/87 3/02/87 2/28/87 3/02/87	2518308 2518309 2518310 2518314 2518315 2518316 2518311 2518318	

Program

E E	SAMPLE DESCRIPTION	SAMPLE NUMBER	Polychloronated Biphenyls	RESULTS	Volatile Organic Compounds	RESULTS	Other Organic Compounds	RESULTS
	Station Well		None Detected	*****	None Detected	*****	Unknown compound	present
	Stream on property	2518313	None Detected	*****	None Detected	*****	Not performed	*******
	Sediment on site	2518317	None detected	*****	***************************************		***************************************	
	Residential well 01 Residential well 02		None Detected	*****	None Detected None Detected	*****	Not performed Not performed	
	Residential well 03	2518310	None Beterreu		None Detected	*****	Unknown compound	present
	Residential well 04		None Detected	*****	None Detected	*****	Not performed	hi ezenr
	Spring of property	2518315	None Detected	*****	None Detected	*****	Not performed	***************************************
	Drainage off Site	2518316	None Detected	*****	None Detected	*****	Not performed	
	Stream off property	2518311	None Detected	*****			Small unknown compound	present
	Sediment off site	2518318	Arochlor 1248	est. 300 ppb				

TE DE

MASTER FILE: ROCKWOOD

291016.05



COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

Bureau of Solid Waste Management R. D. #3, Wilmore Road P. O. Box 625 Ebensburg, PA 15931-0625 June 16, 1987

814-472-6330

NARRATIVE SUMMARY - William Shawley

Texas Eastern Gas Pipeline Company Rockwood Compressor Station Somerset Co., Black Twp.

This site is an inactive compressor station which is now used only as a head-quarters for a Texas Eastern guaging crew. The site was formerly used as a pump station for crude oil and other petroleum products and had a 65,000 barrel storage tank which has been dismantled and removed. About 20 years ago, Texas Eastern bought the pipeline and the pump station and has been using it solely for natural gas. There are no compressors at the site at present. Two pipe lines cross the site; (1 20" and 24").

Site maps included with the Weston Reports indicate a disposal pit, dismantled storage tank, dismantled slop tank, a crushed PCB drum area, and underground concrete sump tanks.

A more extensive site history is located in the Weston Report and in the PA DER Bureau of Waste Management files in Pittsburgh. These files and maps indicate that at some time waste was disposed of in pits located at this site and that a potential exists for surface water, ground water and soils contamination from PCB's and possibly volatile organic and semivolatile organic compounds. Several water samples taken by myself and Eric Manges, Hydrogeologist, Pittsburgh Regional Office of Bureau of Waste Management did not indicate any contamination.

Texas Eastern has been ordered by PA DER to supply information and records if available and to do further sampling at this site. Due to the fact that this site is not an active compressor station, the contamination potential is probably lower than at other Texas Eastern sites but there is still a need for additional testing information.

I recommend that a more complete site history should be obtained from Texas Eastern concerning the disposal practices at this site and that additional sampling and investigation should be done at the locations of the PCB drum area, disposal pit, sumps, and dismantled tank.

See TEXAS EASTERN PIPELINE - WINDRIDGE STATION 20 PA-2166

section le

Sampling Information April 15, 1987

See TEXAS EASTERN-ACCIDENT STATION MD-271

section le

memorandum

FROM: David C. Batson

Special Litigation Division

Office of Enforcement and Compliance

Monitoring

USEPA

TO: Case Management Network Contacts

April 8, 1987



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

MAR | 3 | 1987

CERTIFIED MAIL
RETURN-RECEIPT REQUESTED

OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING

Texas Eastern Gas Pipeline Company H. D. Church Senior Vice President Engineering and Operations P.O. Box 2521 Houston, Texas 77252-2521

> Re: Texas Eastern Transmission Corporation and Texas Eastern Gas Pipeline Company

Dear Mr. Church:

The Environmental Protection Agency (EPA) is investigating the disposal of PCBs and hazardous wastes in pits, ponds, and lagoons located at compressor stations owned or operated by Texas Eastern Transmission Company (Texas Eastern) along its natural gas pipeline system. Preliminary information received from Texas Eastern indicates the presence of PCBs and hazardous wastes at numerous compressor station sites.

Under the provisions of Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. §6927, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §9604, the Administrator of the Environmental Protection Agency has the authority to require any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled hazardous wastes or substances to furnish information related to such wastes or substances. Pursuant to this statutory authority, you are hereby requested to respond to the information requests set forth herein, on the basis of all information and documents in your possession, your custody or control, or the possession, custody, or control of your employees, agents, servants or attorneys. Responses must be made within fifteen (15) calendar days of receipt of this letter. Your responses should be mailed or delivered to:

David C. Batson
Special Litigation Division
Office of Enforcement and Compliance
Monitoring (LE-134P)
U.S. Environmental Protection Agency
401 M Street, S.W. (Room NE113)
Washington, D.C. 20460

Under Section 3008 of RCRA, 42 U.S.C. \$6928, failure to comply with this request may result in an order assessing civil penalties and requiring compliance. Failure to comply with this request under Section 104 of CERCLA may result in an order requiring compliance or a civil action for penalties.

EPA regulations governing confidentiality of business information are set forth in Part 2, Subpart B of Title 40 of the Code of Federal Regulations. For any portion of the information you submit which you believe is entitled to confidential treatment by EPA, please assert a business confidentiality claim in accordance with 40 C.F.R. \$2.203(b). If EPA determines that the information claimed confidential meets the criteria in 40 C.F.R. \$2.200, then such information will be disclosed by EPA only to the extent and by the procedures specified in 40 C.F.R. Part 2, Subpart B. EPA will construe your failure to furnish a confidentiality claim with your response to this letter as a waiver of a confidentiality claim, and the information may be made available to the public by EPA or the Department of Justice without further notice to you.

The time period for which the requests set out below seek information is all periods during which Texas Eastern owned or operated the company's natural gas pipeline system and all prior periods for which the company has information. For purposes of the information requests, the following definitions apply:

The word "document" includes, without limitation, all written, typewritten, handwritten, printed, or graphic matter of any kind or nature, however, produced or reproduced (including any copies containing additional matter), any form of collected data for use with electronic data processing equipment, and any mechanical or electronic reports, minutes of meetings, sales estimates, sales reports, source and use analyses, memoranda, handwritten or other notes, calendar or diary entries, agendas, bulletins, graphs, charts, maps, photographs, drawings, surveys, data, sampling results, analytical results, descriptions of materials, load schedules, price lists, summaries, telegrams, teletypes, computer printouts, magnetic tapes, discs, microfilm, microfiche, any logs of materials or containers shipped, other logs, invoices, purchase orders, checks, receipts, bills of lading, weight receipts, toll receipts, loading tickets, receiving tickets, shipping orders, manifests, inventories, letters and other correspondence, offers, contracts, agreements, bids, proposals, licenses, permits, reports to government agencies, ledgers, accounts receivable, accounts payable, account statements, and financial statements.

- (b) "You" and "your" includes, without limitation, the person to whom this information request is directed, persons acting on his behalf, officers, agents, attorneys, or employees.
- (c) "Texas Eastern Transmission Corporation" (Texas Eastern) includes, without limitation, Texas Eastern Gas Pipeline Company (Texas Eastern Gas), Roy F. Weston, Inc. (Weston) and any officers, directors, agents or employees of Texas Eastern, Texas Eastern Gas, or Weston.
- (d) "Polychlorinated Biphenyls" (PCB or PCBs) means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such substances as defined in 40 C.F.R. §761.3.
- (e) "Waste" or "wastes" includes all solid, liquid, sludge-like, gaseous, or other materials (including, without limitation, PCBs, condensates, and all residues in drums and all contact and non-contact water or process water employed in any chemical or industrial operation) that are, that contain, or may contain chemicals or chemical, industrial, domestic or other by-products, test products, unused products, materials that may be recycled, including mixtures or sewage which could be discharged or placed into the air, any water, lagoon, landfill, container, storage tank, barrel, drums, ditch, trench or surface or subsurface impoundment, and any other solid or hazardous waste, hazardous substance, or pollutant or contaminant as defined in 42 U.S.C. §6903(5) and (27) or 42 U.S.C. §9601(14).
- (f) "Or" shall be construed either conjunctively or disjunctively to bring within the scope of these information requests any information which might otherwise be construed to be outside the scope of these requests.
- (g) "Disposal" or "Dispose" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any waste into any or on any land or water so that such waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.
- (h) "Storage" or "Store" means the containment of wastes, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such wastes.
- (i) "Treatment" or "Treat" means any method, technique, or process, including neutralizaton, designed to change the physical, chemical, or biological characteristic or composition of any waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume.

(j) "Pit" means, without limitation, any pit, pond, lagoon or other area, including landfarms and ditches, which are currently used or which have ever been used for the disposal, storage or treatment of wastes.

INFORMATION REQUESTED

- Provide a detailed statement for each and every pit located at or near the following locations specifying whether such pit is or was at any time used for disposal, storage or treatment of wastes.
 - Grand Chenier, Louisiana
 - White Castle, Louisiana
 - Greenwood Field, Louisiana
 - Iowa Plant, Louisiana
 - Y Lake Providence, Louisiana
 - `- M.P. 5.28, Louisiana
 - <- M.P. 281.6, Louisiana</pre>
 - \- M.P. 282.28, Louisiana
 - -- Lizhon, Louisiana
 - Castor (Station E), Louisiana
 - Monroe, Louisiana
 - Point Au Chein, Louisiana
 - Caillou Island, Louisiana
 - Lake Raccourci, Louisiana
 - X M.P. 9.81, Louisiana
 - < Huntsville, Texas</pre>
 - '- Sabine Pass, Texas
 - - Charco, Texas
 - - Fagus, Pollard (Station 8), Arkansas
 - North Little Rock (Station 5), Arkansas
 - Hanover, New Jersey
 - Station 27A, New Jersey
 - / Public Service Central, New Jersey MS 449
 - >- Public Service (Hillsborough), New Jersey 141A
 - X Corona, New Mexico =
 - Y- Winslow, Arizona -
 - ⊀- Seligman, Arizona →
 - Leidy, Pennsylvania
 - Bernville, Pennsylvania
- 2. Provide a comprehensive and detailed listing of each and every pit used at any time for the disposal, storage or treatment of wastes including, without limitation, any pit previously identified to the Environmental Protection Agency in the Preliminary Report of Sampling at Texas Eastern Compressor Stations dated December 1986.

- 3. Provide for each pit included in your response to Information Requests 1. and 2. above, a detailed description of such pit and the wastes disposed, stored or treated at such pit, including, without limitation:
 - Size and volume of such pit
 - Identification of any and all wastes disposed, stored or treated
 - The source of any waste disposed, stored or treated
- 4. Provide a detailed description of the exact location of any and all pits included in your response to Information Requests 1. and 2. above, including for each pit:
 - A pit identification code specifying; (1) the state in which such pit is located, (2) the name, and company identification code if applicable, of any facility on or near which the pit is located, and (3) a pit identification number designating the pit from other pits located at or near the same facility
 - Exact location of pit in relation to any facility at or near which the pit is located
 - Exact longitude and latitude bearings
 - Proximity to any residential property
 - Concise driving directions from the nearest major highway

Sincerely yours,

TEXAS EASTERN Gas Pipeline Company

A DIVISION OF TEXAS EASTERN TRANSMISSION CORPORATION

H. D. CHURCH SENIOR VICE PRESIDENT ENGINEERING & OPERATIONS

April 3, 1987

Mr. David C. Batson
Special Litigation Division
Office of Enforcement and Compliance Monitoring (LE-134P)
U. S. Environmental Protection Agency
401 M Street, S.W. (Room NE113)
Washington, D.C. 20460

Dear Mr. Batson:

The enclosed information is submitted by Texas Eastern Gas Pipeline Company (Texas Eastern) in response to a request dated March 13, 1987, signed by Mr. Thomas L. Adams, Jr., Assistant Administrator of the Office of Enforcement and Compliance Monitoring.

In your request, you asked Texas Eastern to provide information about pits used for the disposal, storage, or treatment of wastes. Because much of the information about the pits either was not recorded nor preserved, Texas Eastern largely has relied on interviews with station employees to produce the enclosed information. Although Texas Eastern is continuously attempting to refine this information further, this is the best information currently available. We will inform you promptly if our additional investigations produce information which materially changes these responses.

The items which follow elaborate on or explain some of the information contained on the summary sheets enclosed with this letter.

1. The proximity to residential property was determined from information required by the Department of Transportation (DOT) to be gathered by all pipeline companies. DOT regulations generally require that Texas Eastern determine the number and proximity of residences within one quarter mile on either side of the compressor station milepost and within 660 feet on either side of the pipeline, i.e., a one-half mile by 1320 foot rectangle with the compressor station milepost at its center.

In responding to your request concerning the proximity of the pits to residential property, Texas Eastern has provided the distance to the nearest residential property as identified by the DOT survey. Because the pit locations are not coincident with the compressor stations mileposts, the proximity of the pit to the nearest residential property

- will be somewhat greater or smaller than the proximity of the compressor station mileposts to the nearest residential property.
- 2. Because all but a few pits have been backfilled, and because many pits have been backfilled for a number of years, the pit dimensions provided represent the best estimates of station personnel based on their memory or information recounted to them by former employees.
- 3. The pit volumes provided are based on the estimated pit dimensions. The volumes of liquids contained in the pits are believed to have been at all times much smaller than the total pit volumes, however.
- 4. The pit designations containing an asterisk represent pits which were not included in the reports entitled "Results of the Supplementary 8 Pilot Site Compressor Station Investigation Program" and "Results of the 54 Site Screening Program." At the time that Texas Eastern initiated the Weston study, it had performed one survey to locate potential disposal pit locations on its system. The locations sampled by Weston were selected by Texas Eastern and Weston from the potentially contaminated portions of the system based on the results of that initial survey. Since that time, Texas Eastern has continued to investigate the possible presence of pits on all parts of its system and has identified other locations where pits may have been located.
- 5. As requested, driving directions are provided for each of the locations whichever contained pits on the enclosed sheets, and the United States Environmental Protection Agency is invited to inspect any of Texas Eastern's facilities. Because some of the stations are unmanned, and in order to ensure the presence of someone who can accompany any inspectors through the facility and answer any questions they may have, we request that you contact Mr. Steven L. Horton, Vice-President of Technical Services, prior to sending any inspectors to a Texas Eastern facility. Mr. Horton can be reached at (713) 759-7400.
- 6. Texas Eastern disposes of domestic sanitary sewage that is generated at its compressor stations in a variety of ways, including septic tanks, lagoon-type evaporation beds, open filter beds, closed biological filters, and mechanical package sewage treatment plans, as well as municipal sanitary sewer systems in some locations. Some of these systems would qualify as "pits" used to dispose of "waste" according to the definitions contained in this request. Texas Eastern has no knowledge of nor reason to suspect that any of its domestic sewage systems were ever used for the disposal of waste oil, pipeline liquids, or other non-domestic sanitary sewage wastes. We therefore have not included descriptions of the domestic sanitary sewage disposal systems which qualify as "pits" in our responses to your request. If you desire more information about domestic sanitary sewage disposal systems at Texas Eastern's compressor stations or other facilities, we will be pleased to provide what information we have to you.

U.S. ENVIRONMENTAL PROTECTION AGENCY April 3, 1987 Page 4

> Dr. Richard T. Dewling, Commissioner New Jersey Department of Environmental Protection

> Mr. Henry Williams, Commissioner New York Department of Environmental Conservation

Mr. Warren W. Tyler, Director Ohio Environmental Protection Agency

Mr. Donald A. Lazarchik, Director Pennsylvania Department of Environmental Resources

Mr. Tom Tiesler, Director Tennessee Department of Health & Environment

Mr. Ronald R. Potesta, Director West Virginia Department of Natural Resources

Mr. Larry Soward, Executive Director Texas Water Commission

Mr. Jim Morrow Texas Railroad Commission

LEIDY STATION, PA

There were no pits located at this station.

 $(Ee\sigma)$

BERNVILLE, PA

There were no pits located at this station.

WIND RIDGE, PA STATION 20

Facility Data

P 4.

o Latitude: 39° 53' 54" N o Longitude: 80° 23' 55" W

o Proximity of residential property: approximately 133'

Pit Data

Number of Pits: Two

Pit #PA-20-01

- o Installation/Last Use/Backfill Dates: unknown/1979/1982
- o Approximate Size/Volume: Approximately 30 ft x 40 ft x 3 ft deep/3600 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units
- o Pit Location: 455' N O4°E of NW corner of old 24" blower building

Pit #PA-20-02

- o Installation/Last Use/Backfill Dates: unknown/1970/1982
- o Approximate Size/Volume: 15 ft x 20 ft x 3 ft deep/900 cubic
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 255' S 42° W of the NW corner of old 24" blower building

Driving Directions

From Waynesburg, PA, proceed west on Hwy. 18 a distance of 6.7 miles. Turn right onto Hwy 21, proceed a distance of 4.0 miles. Turn left onto County Rd. 30003, proceed a distance of 3.0 miles. Turn left at T-intersection, proceed a distance of 1.5 miles. Station is located on left side of road.

UNIONTOWN, PA STATION 21

Facility Data

i to the

o Latitude: 39° 55' 45" N o Longitude: 79° 38' 37" W

o Proximity to residential property: approximately 160 feet

Pit Data

Number of Pits: One

Pit # PA-21-01

- o Installation/Last Use/Backfill Dates: 1943/unknown/prior to 1956
- o Approximate Size/Volume: 30 feet in diameter at surface, depth unknown
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 250 feet S61°E of the northeast corner of the compressor building

Driving Directions

From Uniontown, PA, proceed North on Old Hwy. 119 a distance of 3.8 miles. Turn right on Gaddis Crossroad (State Rt. 26047), go 1.5 miles and turn right at Clover Farm Store. Station is on left.

CONNELLSVILLE, PA STATION 21A

Facility Data

. .

o Latitude: 39° 55' 54" N o Longitude: 79° 40' 18" W

o Proximity to residential property: approximately 416 feet

Pit Data

Number of Pits: Four

Pit # PA-21A-01

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1977
- o Approximate Size/Volume: 10 feet in diameter at bottom, 4 feet deep/ 310 cubic feet

- o Wastes: Pipeline liquids and engine oil o Source of Wastes: Pipeline and drips from units o Pit Location: 465 feet N74 W of the west corner of the compressor building

Pit # PA-21A-02

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1977
- o Approximate Size/Volume: 10 feet in diameter at bottom, 4 feet deep/ 310 cubic feet
- o Wastes: Pipeline liquid
- o Source of Wastes: Pipeline and drips from units o Pit Location: 465 feet N74°W of the west corner of the compressor building

Pit # PA-21A-03

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1977
- o Approximate Size/Volume: 37 feet x 25 feet x 6 feet deep/ 5550 cubic feet
- o Wastes: Pipeline liquid
- o Source of Wastes: Pipeline and drips from units o Pit Location: 560 feet N15°E of the west corner of the compressor building

Pit # PA-21A-04

ا برانچہ

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1977
- o Approximate Size/Volume: 37 feet x 25 feet x 6 feet deep/ 5550 cubic feet
- o Wastes: Pipeline liquid
- o Source of Wastes: Pipeline and drips from units o Pit Location: 560 feet N15°E of the west corner of the compressor building

Driving Directions

From Uniontown, PA, proceed North on Old Hwy. 119 a distance of 3.7 miles. Station is located on left side of road.

ROCKWOOD, PA STATION 22

Facility Data

5 - N. M.

o Latitude: 39° 56' 18" N o Longitude: 79° 06' 12" W

o Proximity to residential property: approximately 260 feet

Pit Data

Number of Pits: One

Pit # PA-22-01

- o Installation/Last Use/Backfilled Dates: Unknown/Unknown/Unknown
- o Approximate Size/Volume: 30 feet in diameter, depth unknown
- o Wastes: Unknown
- o Source of Wastes: Unknown
- o Pit Location: 450 feet S58°E of the SW corner of the 24-inch pipeline building

Driving Directions

From New Centerville, go east on Mud Pike approximately 4.7 miles (past Baltimore and Ohio Railroad and Bando). Turn right at first intersection past Bando. Go south approximately 1/2 mile. Compressor station is on right side of this road.

BEDFORD, PA STATION 22A

Facility Data

- o Latitude: 39° 55' 46" N o Longitude: 78° 35' 14" W
- o Proximity to residential property: approximately 355 feet

Pit Data

Number of Pits: One

Pit # PA-22A-01

- o Installation/Last Use/Backfilled Dates: 1952/1970/1979
- o Approximate Size/Volume: 35 feet in diameter, 18 feet deep/ 17300 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 225 feet N53°E of the NE corner of the
- . compressor building

Driving Directions

From Bedford, PA, take Hwy. 220 South 8.6 miles. Station is on right.

CHAMBERSBURG, PA STATION 23

Facility Data

o Latitude: 39° 53' 30" N o Longitude: 77° 40' 49" W

o Proximity to residential property: approximately 200 feet

Pit Data

Number of Pits: one

Pit # PA-23-01

- o Installation/Last Use/Backfilled Dates: 1953/1985/1985
- o Approximate Size/Volume: 30 feet in diameter, 8 feet deep/ 5650 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units
- o Pit Location: Approximately 455 feet N11°E of the NW corner of the compressor building control room.

Driving Directions

From Chambersburg city limits, take Hwy. 11 South 3.4 miles to station on right of highway (0.5 miles from Guilford Springs).

MARIETTA, PA STATION 24

Facility Data

o Latitude: 40° 03' 49" N o Longitude: 76° 36' 04" W

o Proximity to residential property: approximately 140 feet

Pit Data

Number of Pits: One

Pit # PA-24-01

- o Installation/Last Use/Backfilled Dates: Unknown/Unknown/
- o Approximate Size/Volume: 30-50 feet in diameter, 7 feet deep/8790 cubic feet
- o Wastes: Unknown
- o Source of Wastes: Unknown
- o Pit Location: 265 feet S69°W of the NW corner of the 24-inch crude pipeline building

Driving Directions

From the intersection of hwys 743 and 441 west of Marietta, continue west on Hwy. 441 for 3.7 miles (1.7 miles past Station 24A entrance). Turn left at major intersection of road from Maytown. Station 24 is about 0.1 miles on left.

MARIETTA, PA STATION 24A

Facility Data

1 1

o Latitude: 40° 03' 47" N o Longitude: 76° 34' 39" W

o Proximity to residential property: approximately 485 feet

Pit Data

Number of Pits: One

Pit # PA-24A-01

- o Installation/Last Use/Backfilled Dates: 1952/1977/1978
- o Approximate Size/Volume: 50 feet in diameter, 6 feet deep/11,775 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 445 feet N55°E of the NE corner of the compressor building

Driving Directions

From the intersection of Hwys. 743 and 441 west of Marietta, continue west on Hwy. 441 for 2 miles to Station 24A entrance.

EAGLE (PHOENIXVILLE) STATION, PA STATION 25

Facility Data:

o Latitude: 40° 05' 50" N o Longitude: 75° 41' 14" W

o Proximity to residential property: approximately 1109'

Pit Data

1 1/2

Number of Pits: Two

Pit #PA-25-01 NOTE: This pit may actually be a WEP concrete sump which was filled in with dirt and a shed was later built over it.

o Installation/Last Use/Backfill Dates: unknown/unknown/

o Approximate Size/Volume: unknown/unknown

o Wastes: unknown

o Source of Wastes: unknown

o Pit Location: $175' \text{ N } 28^{\text{O}} \text{ W of NW corner of } 24"$ pipeline crude building

Pit #PA-25-02 Fire training pit

- o Installation/Last Use/Backfill Dates: prior to 1947/1979/
- o Approximate Size/Volume: 30-40 feet in diameter and 2-3 feet deep/1400-3700 cubic feet
- o Wastes: pipeline liquids, gasoline and diesel
- o Source of Wastes: pipeline and fire training
- o Pit Location: 480' N 15° E of NE corner of 24" pipeline crude building

Driving Directions

From Eagle, PA take Pottstown Pike north approximately 1 mile to Fellowship Road. Turn right and go approximately 0.5 miles to the station.

ARMAGH STATION, PA

Facility Data

o Latitude: 40° 25' 51" N o Longitude: 79° 05' 05" W

o Proximity to residential property: approximately 675 feet

Pit Data

Number of Pits: Two

Pit # PA-ARM-01

- o Installation/Last Use/Backfilled Dates: 1958/1982/1982
- o Approximate Size/Volume: 20 feet in diameter at bottom, depth unknown
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units
- o Pit Location: Approximately 635 feet N62°E of the SW corner of the compressor building.

Pit # PA-ARM-02

- o Installation/Last Use/Backfilled Dates: 1958/1969/1969
- o Approximate Size/Volume: 10 feet in diameter, depth unknown
- o Wastes: valve operator oil
- o Source of Wastes: valve operator drips and drainage
- o Pit Location: Approximately 560 feet S35°E of the SW corner of the compressor building.

Driving Directions

From Armagh, PA, take Hwy. 22 West to Clyde, then 0.4 mile to T 716 road. Turn left and go 0.3 mile to fork, take T 714 to right and continue 0.7 mile to station.

BECHTELSVILLE STATION, PA

Facility Data

o Latitude: 40° 25' 06" N o Longitude: 75° 37' 22" W

o Proximity of residential property: approximately 634'

Pit Data

Number of Pits: One

Pit #PA-BEC-01

- o Installation/Last use/Backfill Dates: 1957/1967/1968
- o Approximate size/Volume: 20 50 feet in diameter, depth estimated to be 5 ft./1500 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 255' S 81 E of NE corner of compressor building

Driving Directions

From Pottstown, go north on State Route 100 approximately 10.8 miles to Shultzville. Turn left at Shultzville intersection and go 0.6 miles to next intersection. Turn right and go 1/4 mile to next intersection. Turn left and follow this road for approximately 1.7 miles. Station is on the left.

DELMONT STATION, PA

Facility Data

o Latitude: 40° 23' 04" N o Longitude: 79° 32' 51" W

o Proximity to residential property: approximately 584'

Pit Data

Number of Pits: One

Pit #PA-DEL-01

- o Installation/Last Used/Backfill Dates: unknown/1972/1975
- o Approximate size/Volume: 30 feet in diameter/volume unknown
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: approximately 535' S 71° W of the SW corner of the reciprocating compressor building

Driving Directions

Take Hwy 66 N out of Greensburg 6.5 miles from Otterman Street. Turn right on paved road at steel tower, then take next right turn 0.4 miles ahead. Proceed 1.1 miles to station.

ENTRIKEN STATION, PA

Facility Data

1 1, 1

o Latitude: 40° 18' 32" N o Longitude: 78° 08' 21" W

o Proximity to residential property: There are no residences within 660 feet of the facility milepost.

Pit Data

Number of Pits: One

Pit # PA-ENT-01

- o Installation/Last Use/Backfilled Dates: Unknown/1965/1965 o Approximate Size/Volume: 10 feet in diameter, depth unknown
- o Wastes: Valve operator oil

o Source of Wastes: Valve operator

o Pit Location: Approximately 235 feet S12°W of the SW corner of the compressor building

Driving Directions

From Entriken, take Hwy. 994 east 4.5 miles, turn left on paved road (T-381) to Trough Creek State Park. Station is 0.7 miles ahead.

GRANTVILLE STATION, PA

Facility Data

o Latitude: 40° 22' 47" N o Longitude: 76° 40' 16" W

o Proximity to residential property: approximately 500 feet

Pit Data

Number of Pits: One

Pit # PA-GRA-01

o Installation/Last Use/Backfilled Dates: 1955/1977/1977

o Approximate Size/Volume: 20 feet in diameter at bottom, 3-4 feet deep/ 1260 cubic feet

o Wastes: Pipeline liquids and engine oil

o Source of Wastes: Pipeline and drips from units o Pit Location: 440 feet S81°W of the SW corner of the compressor building

Driving Directions

From Hershey, go north on State Route 743 approximately 10 miles to Interstate 81. Cross interstate and continue approximately 0.2 miles, turn left into compressor station.

HOLBROOK STATION, PA

Facility Data

o Latitude: 39° 53' 26" N o Longitude: 80° 27' 08" W

o Proximity to residential property: approximately 485 feet

Pit Data

Number of Pits: Three

Pit # PA-HOL-01

- o Installation/Last Use/Backfilled Dates: Unknown/1974/1980
- o Approximate Size/Volume: 15 feet in diameter, 2 feet deep/ 350 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units
- o Pit Location: 510 feet N28°E of the NW corner of the compressor building pump room.

Pit # PA-HOL-02 (NOTE: This pit is concrete-lined)

- o Installation/Last Use/Backfilled Dates: Unknown/1968/1980
- o Approximate Size/Volume: 40 feet in diameter, 2 feet deep/ 1920 cubic feet
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units
- o Pit Location: 420 feet S66 W of the NW corner of the compressor building A pump room.

Pit # PA-HOL-03

- o Installation/Last Use/Backfilled Dates: Unknown/1968/1980
- o Approximate Size/Volume: 15-20 feet in diameter, depth unknown
- o Wastes: pipeline liquids and engine oil
- o Source of Wastes: pipeline and drips from units
- o Pit Location: 410 feet S88 W of the NW corner of the compressor building pump room.

Driving Directions

From Wind Ridge, take Hwy. 21 West about 2 miles and turn left on paved road to Ryerson State Park. Station is approximately 1 mile ahead.

LILLY STATION, PA

Facility Data:

o Latitude: 40° 26′ 16″ N o Longitude: 78° 35′ 33″ W

o Proximity to residential property: approximately 477'

Pit Data

Number of Pits: One

Pit #PA-LIL-01

o Installation/Last Use/Backfill Dates: 1957/1977/1977

o Approximate Size/Volume: 25 feet in diameter at surface and 5 feet deep/2453 cubic feet

o Wastes: pipeline liquids and engine oil

o Source of Wastes: pipeline and fire training o Pit Location: 250' N 63° W of NW corner of compressor building

Driving Directions

From Cresson, go east on U.S. Route 22 approximately 1 mile to Summit. Turn right at Summit, proceed 0.9 miles south. Turn left at intersection, proceed 0.6 miles. Turn right at intersection, proceed 0.3 miles. Station is located on right side of road.

PERULACK STATION, PA

Facility Data

o Latitude: 40° 21' 15" N o Longitude: 77° 39' 16" W

o Proximity to residential property: approximately 420 feet

Pit Data

Number of Pits: Two

Pit # PA-PER-01

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1978
- o Approximate Size/Volume: 20-25 feet in diameter, depth
- o Wastes: Pipeline liquids and engine oil
- o Source of Wastes: Pipeline and drips from units o Pit Location: 605 feet $S60^{\circ}E$ of the NW corner of the compressor building

Pit # PA-PER-02

- o Installation/Last Use/Backfilled Dates: Unknown/1977/1978
- o Approximate Size/Volume: 20-25 feet in diameter, depth unknown
- o Wastes: Pipeline liquids
- o Source of Wastes: Pipeline o Pit Location: 335 feet S87°W of the NW corner of the compressor building

Driving Directions

From East Waterford, go south on State Route 75 approximately 2.7 miles to Perulack. Turn right at Perulack and go approximately 0.9 miles. Compressor Station is on left side.

SHERMANS DALE STATION, PA

Facility Data

o Latitude: 40° 20' 38" N o Longitude: 77° 09' 46" W

o Proximity to residential property: approximately 710 feet

Pit Data

Number of Pits: Two

Pit # PA-SHE-01

- o Installation/Last Use/Backfilled Dates: 1958/1968/1968
- o Approximate Size/Volume: 30 feet in diameter at surface, depth unknown
- o Wastes: Pipeline liquid
- o Source of Wastes: Pipeline and drips from units o Pit Location: 235 feet N15°E of the NE corner of the compressor building

Pit # PA-SHE-02

- o Installation/Last Use/Backfilled Dates: 1968/1981/1981
- o Approximate Size/Volume: 20 feet in diameter, depth unknown
- o Wastes: Pipeline liquid
- o Source of Wastes: Pipeline and drips from units o Pit Location: 410 feet N66 E of the NE corner of the compressor building

Driving Directions

From New Bloomfield, go south on State Route 34 approximately 6 miles. Turn left onto L.R. 5044 and follow, bearing to the right, for approximately 1.5 miles. Compressor station will be on right side of road.

4

WESTER

O (plano dat

(Red)

GROUNDWATER ASSESSMENT AND MONITORING WORK PLAN

RECEIVED

ROCKWOOD (22)

MAR 1 3 1987

Assistant Director's Office BUREAU OF WASTE MGT.

Texas Eastern Gas Pipeline Company Houston, Texas

Roy F. Weston, Inc. Weston Way West Chester, Pennsylvania 19380

March 1987

Work Order No. 2708-01-07



SECTION 1

INTRODUCTION

Texas Eastern owns and operates a major gas transmission pipeline system that provides Natural gas to the northeastern United States. The system extends from Texas to New York, and contains 67 compressor stations, which are spaced at regular intervals along the pipelines. Nineteen stations are located along southern Pennsylvania. The pipeline enters the state in the southwest corner near Holbrook, Pennsylvania. The pipeline branches into two parallel right-of-ways, a north right-of-way and a south right-of-way, near Connellsville, Pennsylvania. The two pipelines come together and exit the state near New Hope, Pennsylvania.

Some of the turbine/compressor units had used lubricating oils that contained polychlorinated biphenyls (PCBs). Disposal pits were located at the compressor stations and periodically received materials, such as pipeline condensates, which potentially contained PCBs. None of the disposal pits are in operation at this time. All have been closed (backfilled).

Texas Eastern retained the services of Roy F. Weston, Inc. (WESTON) to assist them in investigating the disposal pit areas. WESTON has performed two phases of investigations at the Delmont and Bechtelsville Stations and one phase of work at the remaining 16 other sites. No investigations were performed at the Bernville station.

The investigation included the collection of water, sediment, and soil samples that were all analyzed for PCB content. Water and sediment samples were obtained from nearby surface waters and drainage swales. Soil samples were obtained from soil borings within and immediately adjacent to the pit areas. Six soil boring samples at Delmont and Bechtelsville were also analyzed for substances listed on the Hazardous Substance List (HSL).

The preliminary investigation at Delmont and Bechtelsville indicated that PCBs were likely be found in the disposal pits at compressor stations downstream of a turbine/compressor unit that used lubricating oils containing PCBs.



The next series of investigations, the Phase II:8 Pilot Site Sampling Program, which included the Delmont and Bechtelsville sites, and the 54 Site Screening Program, which included the remaining 16 sites in Pennsylvania other than Bernville, consisted of the installation of soil borings in the disposal pits and the collection of surface soil, surface water, and sediment samples. The results of this investigation indicated that the disposal pits are the primary source of PCBs on-site. The Pennsylvania Department of Environmental Resources (PADER) has requested the preparation of this groundwater assessment and sampling plan to address the potential groundwater contamination associated with these pits.

.1 SITE LOCATION

1. Located about one Mile south of the non one Mile south of the non one Mile station of the non one Mile station of the non one Mile station of the non of the non of the nor of th The compression is the station is the station in the station of the control of th the ographic paleozioce age sedimentary paleozio the within physice colded ines. (T. on area is and of the station physice of the station of the Laule Long the station area are consists of the station alreadent also of the station alreadent also of the station alreadent into the station alreaded to be looked to be loo 2.3.1 Geology



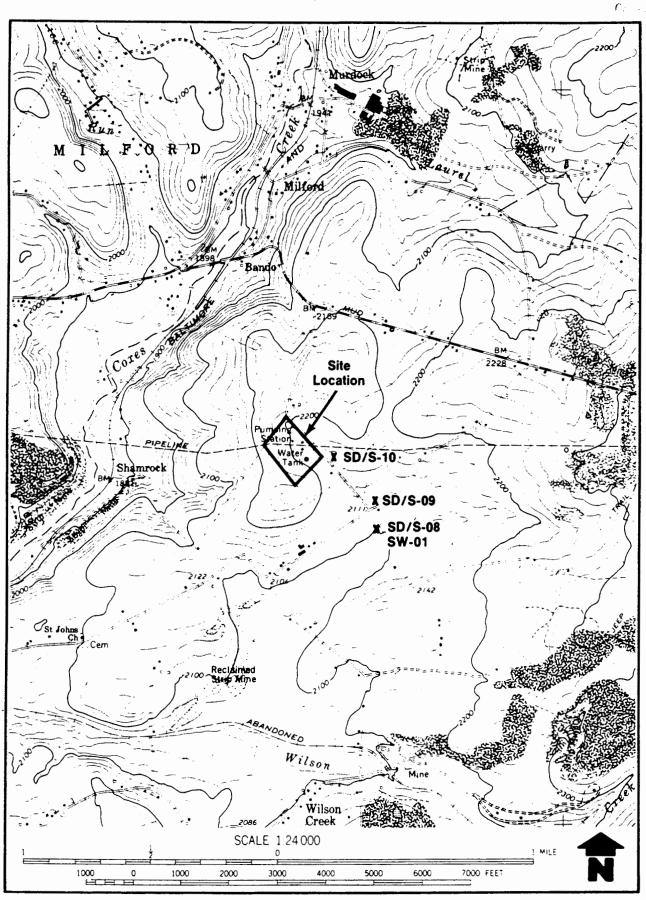


FIGURE 2-1 TEXAS EASTERN ROCKWOOD COMPRESSOR STATION (22)



Table 2-1

Generalized Geologic Column and Water-Bearing Properties Rockwood, Pennsylvania (Station 22)

Unit	Estimated Thick- ness (ft)	Description	Water-Bearing Properties				
Pennsylvanian A	ge						
Allegheny Group	100-150	Alternating sand- stone and shale, with discontinuous beds of limestone and coal.	Good aquifer. Sandstones yield 10 to 100 gpm. Shales yield small supplies. Wells typically 75 to 150 feet deep.				
Pottsville Group 150-200		Predominantly sand- stone and conglom- erate. Minor thin beds of shale, lime- stone and coal.	Most productive unit in the area. Fractured sand-stones yield 150 to 250 gpm at depths of 150 to 210 feet north ar south of the station area.				
Mississippian Ac	je_						
Mauch Chunk Formation	400±	Red shale. Minor sandstones and lime-stones in some areas.	May produce good yields where sand-stones present. No wells identified in station vicinity.				



Rocks of the Pennsylvanian age Pottsville Group underlie the Allegheny Group. The Pottsville is composed predominantly of sandstones and conglomerates, with minor thin beds of shale, limestone, and coal. Individual beds are generally not continuous over large distances. The sandstones are typically massive, and may comprise 60 to 80 percent of the units (150 to 200 feet of thickness) in the area.

The deepest unit of concern is the underlying Mauch Chunk Formation of Mississippian age. The Mauch Chunk is primarily composed of red shale, containing minor sandstones and limestones in some areas. Thickness is estimated to be approximately 400 feet in southern Somerset County (S.W. Lohman, 1938).

2.3.2 Hydrogeology

The principal sources of water supply in the area are the sandstones of the Allegheny and Pottsville Groups. Deeper wells may tap sandstones within the Mauch Chunk Formation (T.G. Newport, 1973). Because the water-yielding units (especially the Allegheny and Pottsville) are typified by lateral variation of lithology, prediction of yields with depth in a given area is speculative. Well yields as well as water quality can be adversely affected where coal mining activities have occurred (S.W. Lohman, 1938).

Sandstones of the Allegheny Group yield 10 to 100 gpm for wells in the area. Shales also reportedly yield small supplies. Well depths for the Allegheny in the area range from 75 to 150 feet.

The Pottsville Group is probably the most productive unit in the area. Fractured sandstones at depths of 150 to 210 feet north and south of the station area have yielded 150 to 250 gpm with very little drawdown (S.W. Lohman, 1938).

2.3.3 Topography and Surface Drainage

The topography of the site is gently sloping from west to east with elevations ranging from 2,235 to 2,175 feet above mean sea level.

Two surface drainage systems receive runoff from the station site area. These drainage systems flow into a common drainage ditch which is located along the eastern boundary of the station site.

SECTION 3

STUDY OBJECTIVES AND SCOPE OF WORK

3.1 OBJECTIVES

The objectives of this groundwater assessment are as follows:

- Determine if substances from disposal pits have entered the groundwater system.
- Assess subsurface geologic conditions.
- Determine direction of groundwater flow.
- Determine upgradient groundwater quality.

3.2 SCOPE OF WORK

In order to meet the objectives, a scope of work is proposed that includes the following elements:

- Installation of monitor wells in the vicinity of the disposal pit(s).
- Monitor well sampling.
- Groundwater elevation survey.
- Seep and spring sampling.
- Report of results.

3.2.1 Monitor Well Installation

The proposed monitor well locations for the Rockwood Compressor Station (22) are shown in Figure 3-1. The well locations are based on the assumed groundwater flow direction which is to the east, based on an easterly topographic slope across the site. Groundwater is probably flowing toward eventual discharge to the tributary to Wilson Creek just northeast of the site (see Figure 2-1). It is expected that the water table will be located in the gently folded and fractured sandstone, shale, and discontinuous limestone under the site. Based on an easterly groundwater flow direction, the only site constraint

APPENDIX A MONITOR WELL INSTALLATION





grouted with a Portland cement/bentonite mixture to ground surface. Grouting material will consist of 6 to 8 pounds of pure bentonite per 94 pound bag of cement with 10 to 15 gallons of water. The wells will be grouted by pumping the grout mixture through a tremie pipe to the top of the bentonite seal. A 5-foot long, 6-inch ID protective steel casing with a lockable hinged cap will then be installed three feet into the grout seal at each well. A cement pad will be installed around the base of the protective casing that will be permanently engraved or marked with the well number.

Upon the completion of drilling, all drill cuttings will be collected into 55-gallon drums, and left on-site in the custody of Texas Eastern station representatives for proper disposal.

A.3 AIR ROTARY DRILLING

into bedrock will be installed Monitor wells constructed utilizing air rotary or impact techniques. The air from the compressor on the rig will be filtered to ensure that oil from the compressor is not introduced into the groundwater system to be monitored. Foam or joint compounds for the drill rods will not be used to eliminate the introduction of these contaminants into the well. Shrouds, canopies, or directional pipes will be used to contain and direct the drill cuttings and fluids into lined 55-gallon drums. Borehole cuttings will be collected to physically characterize the subsurface conditions and then be discarded into the 55-gallon drums, which will be left on-site in the custody of Texas Eastern for proper disposal. Detailed drilling logs will be maintained by on-site WESTON the geologist.

Specifically, air rotary or impact techniques will be used to drill through the unconsolidated sediments (overburden) to at least 5 feet into competent bedrock. A 6-inch diameter carbon steel well casing will be installed from the base of the borehole to ground surface. After the casing is emplaced, the annular space around the casing will be grouted with cement by pumping through a tremie pipe to the base of the borehole. The grout seal will be extended to ground surface.

At least 24 hours following grout emplacement, a 4- to 6-inch diameter open borehole will be drilled below the base of the casing. Drilling will advance the borehole to the first significant water-bearing zone (estimated production rate of approximately 3 to 5 gpm). The open borehole will be extended to at least 20 feet below the depth of the first water-bearing zone.

The upper two feet of the carbon steel casing will remain above ground surface and will be fitted with a locking cap. The well will be permanently engraved or marked with a well number.





A.4 WELL DEVELOPMENT

The monitor wells completed in bedrock will be developed with air purging or a submersible or surface pump to ensure that they will provide representative aquifer samples. Monitor wells completed in unconsolidated formations will be developed using a surge-block-type technique followed by purging with air, submersible, or surface pumps. Development of the wells will continue until the water discharged from each well is clean as practicable and free of sand. The submersible pump or pump base will initially be set at the bottom of the well, then later moved toward the top of the screen to ensure water is drawn through all portions of the screen. Development fluids will be containerized in 55-gallon drums. These drums will be left on-site for proper disposal.

A.5 DECONTAMINATION PROCEDURES

The drilling rig and materials will arrive on-site in clean condition. Prior to the start of the drilling, all drill rods, augers, tools, drill bits, split-spoon samples, well casings, and screens will be steam-cleaned at an area on-site that will have been prepared for this purpose. These materials will be inspected to ensure that all residue such as machine oils have removed. Similar decontamination procedures will implemented between each borehole to prevent cross-contamination. Liquids and solid waste generated during the initial decontamination process will not be collected; however, liquids and solids generated during decontamination between boreholes and prior to leaving the site will be collected in lined 55-gallon drums. Drums containing waste liquids and solids will be left in the custody of the Texas Eastern station representatives for proper disposal.

APPENDIX B GROUNDWATER SAMPLING



APPENDIX B

GROUNDWATER SAMPLING

The water sampling techniques described below are the standard operating procedures followed by WESTON to ensure that water samples are representative of the environment they are intended to characterize. Ensuring that the samples are representative is the first step in WESTON's Project Quality Assurance/Quality Control Program to provide reliable sample analytical data.

All groundwater sampling at the station site will be conducted within one to two weeks after the monitor wells have been installed and developed and quarterly during the following 1-year period. Split samples will be obtained for all analyses at each sampling location, and one set will be provided to the PADER personnel on-site. Specific protocol for monitor well sampling is given in the following subsections.

B.1 MONITOR WELL SAMPLING

Prior to collecting water samples from a monitor well, the well will be purged to ensure that a representative sample is collected during the sampling process. Monitor well purging will follow these procedures:

- 1. Prior to placing any equipment into the well, the sampling equipment will be subjected to the decontamination protocol described in Subsection B.6.
- 2. Unlock the security cap on the protective casing. Remove the well cap slowly while using a PID or HNu to monitor near the cap for volatile emissions.
- 3. Before purging, the depth to the static water level will be measured and recorded. For initial sampling of wells, measurements will also be taken to the bottom of the well.
- 4. Calculate the volume of water to be purged based on the amount of standing water in the well and the inside diameter of the casing.
- 5. Purge the well by bailing with a submersible pump. Remove at least three to five times the calculated volume of standing water in the well. If the well pumps dry, then the pumping phase will be considered complete. All purged water will be containerized in lined 55-gallon drums and left on-site for proper disposal.





Following completion of well purging, each monitor well will be sampled according to the following procedures:

- 1. Sample the well using a Teflon® bailer.
- 2. Transfer the volatile fraction sample (VOA)into four 40-milliliter, laboratory-prepared, septum vials. Overfill each vial in an effort to eliminate void space in the vial. A convex miniscus should be present at the top of the vial.
- 3. Secure the Teflon@-lined caps on the containers.
- 4. Invert the vial after the cap has been secured. Observe whether any bubbles are present after lightly tapping the side of the vial. If bubbles are observed, remove the cap, overfill the vial, as described in step 2, and reseal. Repeat this step for each vial until a single-phase sample with no bubbles has been obtained.
- 5. Attach labels and custody seals, place in a Ziplock® plastic bag, record all pertinent information in the site logbook, and complete the sample request/chain-of-custody form.
- 6. Place the containers on ice.
- 7. Transfer the acid extractable, base/neutral extractable, pesticide, dioxin, and PCB's fraction samples into the appropriate laboratory-prepared containers.
- 8. Perform steps 3, 5, and 6 on the samples.
- 9. Transfer the metals fraction into an unpreserved laboratory-prepared polyethylene bottle. This sample will be immediately passed through a 0.45-micron filter and placed into a polyethylene bottle containing nitric acid as a fixing agent.
- 10. Perform steps 3, 5, and 6 on the samples.
- 11. Obtain a separate sample for field measurements of specific conductance, pH, and temperature.
- 12. Decontaminate the sample bottles and sampling equipment as prescribed in Subsection B.6.

Spring and seep samples will be collected with laboratory-cleaned bottles for transfer to the appropriate sample containers. Sampling protocol will follow steps 2 through 12 listed above.

$H^{i}e(f)$

B.2 SAMPLE COLLECTION AND PRESERVATION

The sample-holding times, preservation methods, and containers for each sample type are shown in Table B-1. Any violation of holding time, preservation technique, or sample container will make it imperative that the Laboratory QA/QC Coordinator notify the Project Manager immediately regarding sample disposition and, if necessary, request resampling, in writing.

B.3 SAMPLE IDENTIFICATION AND DOCUMENTATION

A bound field notebook will be maintained by WESTON project personnel at the site to record daily activities, including sample collection and tracking information. Entries will be made in water-proof ink. A separate entry will be made for each sample collected. Entries will include at least the following information:

- 1. Site identification.
- 2. Sample location and identifier.
- 3. Date.
- 4. Time of collection (military notations).
- 5. Preservatives.
- 6. Analysis required.
- 7. Sampling personnel.
- 8. Comments and other relevant observations, such as sampling technique and any modifications to the sampling procedure, color, odor, and other sample characteristics.

Each sample container will be labelled with the information listed in Nos. 1 and 3 through 7 above, and a unique sample identifier. The identifier will be a three-part label (i.e., TE-ENT-MW01), which will identify the following:

- Client.
- Station site.
- Sample location.



Table B-1
Summary of Groundwater Sampling Requirements
Hazardous Substance List and Dioxins

Parameter	<u>Conta</u> Size	iner Type	Hol After Samp- ling	ding Time (days) After Extraction	Preservatives				
Volatile Organics	40 ml	sv	14	NA	4°C				
Acid Extractables	2 qt.	AG	7	40	4°C				
Base/Neutral Extractables, Pesticides and PCB's	2 qt.	AG	7	30	4°C				
Metals	l qt.	PE	180	NA	pH <2 by nitric acid, 4°C				
Dioxin*	2 qt.	AG	7	40					

SV = Septum vial (with Teflon® lid liner).

AG = Amber glass (with Teflon® lid liner).

PE = Polyethylene (with foil lid liner).

^{*}Solely to satisfy the requirement in Item 5 of the Order, Texas Eastern included provisions for dioxin analysis. Texas Eastern believes this analysis is unnecessary. As discussed at the 11 March 1987 meeting with representatives of PADER, Texas Eastern proposed that dioxin sampling and analysis not be required. See the enclosed letter from Dr. Robert James, Professor of Interdisciplinary Toxicology, University of Arkansas.





A listing of the sample identifiers is presented is Table B-2.

After collection (before proceeding to the next sampling point) the sampler(s) will enter the sample onto the chain-of-custody record (Subsection B.6). The lid to each sample container will be secured with a strip of custody tape which will cover the entire lid and two opposite sides of the container. Sample packaging will proceed as described in Subsection B.4.

B.4 SAMPLE PACKAGING AND SHIPMENT

Individual sample containers will be of the type specified in Table B-1. The sample containers will be placed in a Ziplock® The sealed containers will be packaged bag. absorbent (vermiculite) packaging, and stored in thermal chests containing ice or "Blue Ice" to ensure the preservation of chain-of-custody integrity during shipment. The documents will be secured to the inside of the lid on the thermal chest. The lids of the thermal chests will be secured with strapping tape and sealed with custody tape. The coolers will be transported to WESTON's laboratory using a WESTON vehicle or common carrier. Shipments will be delivered to WESTON's laboratory following the completion of sampling at each site. Laboratory personnel will acknowledge receipt of the shipped samples at the time of their arrival by signing the chain-of-custody form.

B.5 CHAIN-OF-CUSTODY PROCEDURES

All WESTON field personnel will follow the U.S. EPA chain-of-custody procedures to ensure preservation of the integrity of all samples. WESTON Chain-of-Custody Records will be used for all sample manifesting on the project. The Chain-of-Custody Records will be initiated by the WESTON laboratory at the time of sample bottle preparation and will follow each bottle and lot through the sequence from bottle preparation through completion of chemical analyses. A copy of this form is included as Figure B-1.

B.6 DECONTAMINATION PROCEDURES

Sampling implements will be decontaminated prior to use and between sampling locations as follows:

- Wash implements in an Alconox solution.
- Rinse implements with a hexane, methanol, and distilled water rinse.
- Allow implements to totally air dry.



Table B-2

Sample Identifier

Client: TE Texas Eastern

Station Site:

- 20 Wind Ridge
- 21 Uniontown
- 21A Connellsville
- 22 Rockwood
- 22A Bedford
- 23 Chambersburg
- 24 Marietta (1)
- 24A Marietta (2)
- 25 Eagle
- ARM Armagh
- ENT Entriken
- GRA Grantville
- HOL Holbrook
- LIL Lilly
- PER Perulack
- SHE Shermans Dale
- DEL Delmont
- BEC Bechtelsville

Sample Location:

- MW01, MW02, etc. Monitor well
- WW01 On-site supply well

Received By Date Assigned to			Client Contact								
	_	SAMPLE IDENTIFICAT				oject Numb AN	ALYSES				
Sample Ha.	Client ID No.	Description		Container/Preservative				<u> </u>			
							1		 		
					1 1		1	 			
					1 1	<u> </u>		1			· · · · · · · · · · · · · · · · · · ·
								1			
								1			
							1				
							1				
					lacksquare			<u> </u>	 	,	
					1			 	 		
					1			 	 		ļ
					1			—	├		
 					1 1			-	-		
	<u> </u>				11	1		1			<u> </u>
ECIAL INSTR	IUCTIONS:			•							
Hems/Reason	Relinquished By	Received By	Date Time	Items/Resson	Relingu	Relinquished By Received By		, (Date	Time	
	1										
· · · · · · · · · · · · · · · · · · ·	1						ļ				
											



Submersible pumps used to purge the monitor wells will be decontaminated by pumping an Alconox solution through the pump, followed by clean water.

B.7 ANALYTICAL AND QA/QC REQUIREMENTS

The analysis for the hazardous substance list organic and dioxin compounds will be performed at WESTON'S EPA-certified laboratory in West Chester, Pennsylvania. EPA-approved analytical procedures will be used. The Quality Assurance Plan for WESTON's analytical laboratory is included in this appendix.

The QA/QC sampling requirements will include one field blank, one trip blank, and one duplicate sample for sampling conducted at each site. In addition, split samples will be provided to PADER for analysis.